

**What is claimed is:**

1           1. A method for setting a print location for printing by a printer, comprising the steps of:  
2           determining whether a print location setting command for setting a print location for  
3           printing by the printer is input;  
4           outputting a print location setting menu screen for setting the print location for printing  
5           by the printer when the print location setting command is input;  
6           inputting print location information for setting the print location for printing by the  
7           printer for entry in the print location setting menu screen; and  
8           storing the input print location information entered in the print location setting menu  
9           screen in a memory.

1           2. The method of claim 1, further comprised of the print location setting menu screen  
2           comprising an input window for inputting at least coordinate information about a starting point  
3           and an end point of the print location for setting the print location for printing by the printer.

1           3. The method of claim 2, further comprised of the print location setting menu screen  
2           further comprising a cursor input window for setting the print location information to default  
3           values.

1           4. The method of claim 3, further comprised of the print location setting menu screen

being programmed such that edge boundary screen information for a printing medium and print boundary screen information for a print location area for printing on the printing medium are displayed together on the print location setting menu screen, with the print boundary screen information being changed according to the input print location information.

5. The method of claim 4, further comprised of the print location setting menu screen being programmed such that the print boundary screen information is respectively changed in X-axis and Y-axis directions by using a print location adjustment cursor.

6. The method of claim 4, further comprised of the print location setting menu screen further comprising a cursor input window for setting the print location information to default values.

7. The method of claim 1, further comprised of the print location setting menu screen being programmed such that edge boundary screen information for a printing medium and print boundary screen information for a print location area for printing on the printing medium are displayed together on the print location setting menu screen, with the print boundary screen information being changed according to the input print location information.

8. The method of claim 7, further comprised of the print location setting menu screen being programmed such that the print boundary screen information is respectively changed in X-

axis and Y-axis directions by using a print location adjustment cursor.

9. A method of claim 1, further comprising the step of:

adjusting the print location for printing by the printer, comprising the steps of:

receiving the print location information about the print location for printing on a printing medium by the printer and margin information about margins for printing on the printing medium from a computer;

determining the print location for printing on the printing medium using the print location information and the margin information; and

controlling the position of a printer head for printing on the printing medium according to the print location determined in the step for determining the print location.

10. The method of claim 9, further comprised of the step for determining the print location comprising the steps of:

determining an X-axis lower limit  $X_s$  by adding a left margin value  $M_l$  contained in the margin information to an X-axis minimum value  $X_{min}$  contained in the print location information, and determining an X-axis upper limit  $X_e$  by subtracting a right margin value  $M_r$  contained in the margin information from an X-axis maximum value  $X_{max}$  contained in the print location information;

determining a Y-axis lower limit  $Y_s$  by adding a top margin value  $M_t$  contained in the margin information to a Y-axis minimum value  $Y_{min}$  contained in the print location information,

10 and determining a Y-axis upper limit  $Y_e$  by subtracting a bottom margin value  $M_b$  contained in  
11 the margin information from an Y-axis maximum value  $Y_{max}$  contained in the print location  
12 information;

13 comparing the X-axis lower limit  $X_s$  with the X-axis upper limit  $X_e$  and comparing the  
14 Y-axis upper limit  $Y_e$  with the Y-axis lower limit  $Y_s$ , respectively;

15 selectively changing the margins respectively according to a predetermined rule when any  
16 of the X-axis lower limit  $X_s$  is greater than or equal to the X-axis upper limit  $X_e$  and the Y-axis  
17 lower limit  $Y_s$  is greater than or equal to the Y-axis upper limit  $Y_e$ ; and

18 determining the X-axis lower limit  $X_s$  and the Y-axis lower limit  $Y_s$  as the respective X-  
19 axis and Y-axis coordinate values of a print starting point  $X_{st}$ ,  $Y_{st}$  when the X-axis lower limit  
20  $X_s$  is less than the X-axis upper limit  $X_e$  and when the Y-axis lower limit  $Y_s$  is less the Y-axis  
21 upper limit  $Y_e$ , and when the X-axis lower limit  $X_s$  is greater than or equal to the X-axis upper  
22 limit  $X_e$ , determining an X-axis coordinate value  $X_{st}$  of the print starting point by adding the X-  
23 axis minimum value  $X_{min}$  to a changed left margin value  $M_l'$  determined in the selectively  
24 changing the margins step, and when the Y-axis lower limit  $Y_s$  is greater than or equal to the Y-  
25 axis upper limit  $Y_e$  determining a Y-axis coordinate value  $Y_{st}$  of the print starting point by  
26 adding the Y-axis minimum value  $Y_{min}$  to a changed top margin value  $M_t'$  determined in the  
27 selectively changing the margins step, respectively.

1 11. The method of claim 10, further comprised of when any of the X-axis lower limit  $X_s$   
2 is greater than or equal to the X-axis upper limit  $X_e$  and the Y-axis lower limit  $Y_s$  is greater than

or equal to the Y-axis upper limit  $Y_e$ , the margins are initialized to a zero position according to the predetermined rule.

12. A method of adjusting a print location for printing by a printer, comprising the steps of:

receiving print location information about a print location for printing on a printing medium by the printer and margin information about margins for printing on the printing medium from a computer;

determining the print location for printing on the printing medium using the print location information and the margin information; and

controlling the position of a printer head for printing on the printing medium according to the print location determined in the step for determining the print location.

13. The method of claim 12, further comprised of the step for determining the print location comprising the steps of:

determining an X-axis lower limit  $X_s$  by adding a left margin value  $M_l$  contained in the margin information to an X-axis minimum value  $X_{min}$  contained in the print location information, and determining an X-axis upper limit  $X_e$  by subtracting a right margin value  $M_r$  contained in the margin information from an X-axis maximum value  $X_{max}$  contained in the print location information;

determining a Y-axis lower limit  $Y_s$  by adding a top margin value  $M_t$  contained in the

margin information to a Y-axis minimum value  $Y_{min}$  contained in the print location information, and determining a Y-axis upper limit  $Y_e$  by subtracting a bottom margin value  $M_b$  contained in the margin information from an Y-axis maximum value  $Y_{max}$  contained in the print location information;

comparing the X-axis lower limit  $X_s$  with the X-axis upper limit  $X_e$  and comparing the Y-axis upper limit  $Y_e$  with the Y-axis lower limit  $Y_s$ , respectively;

selectively changing the margins respectively according to a predetermined rule when any of the X-axis lower limit  $X_s$  is greater than or equal to the X-axis upper limit  $X_e$  and the Y-axis lower limit  $Y_s$  is greater than or equal to the Y-axis upper limit  $Y_e$ ; and

determining the X-axis lower limit  $X_s$  and the Y-axis lower limit  $Y_s$  as the respective X-axis and Y-axis coordinate values of a print starting point  $X_{st}$ ,  $Y_{st}$  when the X-axis lower limit  $X_s$  is less than the X-axis upper limit  $X_e$  and when the Y-axis lower limit  $Y_s$  is less than the Y-axis upper limit  $Y_e$ , and when the X-axis lower limit  $X_s$  is greater than or equal to the X-axis upper limit  $X_e$ , determining an X-axis coordinate value  $X_{st}$  of the print starting point by adding the X-axis minimum value  $X_{min}$  to a changed left margin value  $M_l'$  determined in the selectively changing the margins step, and when the Y-axis lower limit  $Y_s$  is greater than or equal to the Y-axis upper limit  $Y_e$  determining a Y-axis coordinate value  $Y_{st}$  of the print starting point by adding the Y-axis minimum value  $Y_{min}$  to a changed top margin value  $M_t'$  determined in the selectively changing the margins step, respectively.

14. The method of claim 13, further comprised of when any of the X-axis lower limit  $X_s$

2 is greater than or equal to the X-axis upper limit  $X_e$  and the Y-axis lower limit  $Y_s$  is greater than  
3 or equal to the Y-axis upper limit  $Y_e$ , the margins are initialized to a zero position according to  
4 the predetermined rule.

1 15. An apparatus for setting a print location for printing by a printer, comprising :  
2 means for determining whether a print location setting command for setting a print  
3 location for printing by the printer is input;  
4 means for outputting a print location setting menu screen for setting the print location for  
5 printing by the printer when the print location setting command is input;  
6 means for inputting print location information for setting the print location for printing by  
7 the printer and for entering the input print location information in the print location setting menu  
8 screen; and  
9 means for storing the input print location information entered in the print location setting  
10 menu screen.

1 16. The apparatus of claim 15, further comprised of the print location setting menu  
2 screen comprising an input window for inputting at least coordinate information about a starting  
3 point and an end point of the print location for setting the print location for printing by the  
4 printer.

1 17. The apparatus of claim 16, further comprised of the print location setting menu

2 screen further comprising a cursor input window for setting the print location information to  
3 default values.

1 18. The apparatus of claim 17, further comprised of the print location setting menu  
2 screen being programmed such that edge boundary screen information for a printing medium and  
3 print boundary screen information for a print location area for printing on the printing medium  
4 are displayed together on the print location setting menu screen, with the print boundary screen  
5 information being changed according to the input print location information.

1 19. The apparatus of claim 18, further comprised of the print location setting menu  
2 screen being programmed such that the print boundary screen information is respectively  
3 changed in X-axis and Y-axis directions by using a print location adjustment cursor.

1 20. The apparatus of claim 15, further comprised of the print location setting menu  
2 screen further comprising a cursor input window for setting the print location information to  
3 default values.

1 21. The apparatus of claim 15, further comprised of the print location setting menu  
2 screen being programmed such that edge boundary screen information for a printing medium and  
3 print boundary screen information for a print location area for printing on the printing medium  
4 are displayed together on the print location setting menu screen, with the print boundary screen



5 information being changed according to the input print location information.

1 22. The apparatus of claim 21, further comprised of the print location setting menu  
2 screen being programmed such that the print boundary screen information is respectively  
3 changed in X-axis and Y-axis directions by using a print location adjustment cursor.

1 23. An apparatus of claim 15, further comprising:  
2 means for adjusting the print location for printing by the printer, the means for adjusting  
3 comprising:

4 means for receiving the print location information about the print location for  
5 printing on a printing medium by the printer and margin information about margins for  
6 printing on the printing medium from a computer;

7 means for determining the print location for printing on the printing medium using  
8 the print location information and the margin information; and

9 means for controlling the position of a printer head for printing on the printing  
10 medium according to the print location determined by the means for determining the print  
11 location.

1 24. The apparatus of claim 23, further comprised of the means for determining the print  
2 location, comprising:

3 means for determining an X-axis lower limit  $X_s$  that adds a left margin value  $M_l$

4 contained in the margin information to an X-axis minimum value  $X_{min}$  contained in the print  
5 location information, and means for determining an X-axis upper limit  $X_e$  that subtracts a right  
6 margin value  $M_r$  contained in the margin information from an X-axis maximum value  $X_{max}$   
7 contained in the print location information;

8 means for determining a Y-axis lower limit  $Y_s$  that adds a top margin value  $M_t$  contained  
9 in the margin information to a Y-axis minimum value  $Y_{min}$  contained in the print location  
10 information, and means for determining a Y-axis upper limit  $Y_e$  that subtracts a bottom margin  
11 value  $M_b$  contained in the margin information from an Y-axis maximum value  $Y_{max}$  contained  
12 in the print location information;

13 means for comparing the X-axis lower limit  $X_s$  with the X-axis upper limit  $X_e$  and means  
14 for comparing the Y-axis upper limit  $Y_e$  with the Y-axis lower limit  $Y_s$ , respectively;

15 means for selectively changing the margins respectively according to a predetermined  
16 rule when any of the X-axis lower limit  $X_s$  is greater than or equal to the X-axis upper limit  $X_e$   
17 and the Y-axis lower limit  $Y_s$  is greater than or equal to the Y-axis upper limit  $Y_e$ ; and

18 means for determining the X-axis lower limit  $X_s$  and the Y-axis lower limit  $Y_s$  as the  
19 respective X-axis and Y-axis coordinate values of a print starting point  $X_{st}$ ,  $Y_{st}$  when the X-axis  
20 lower limit  $X_s$  is less than the X-axis upper limit  $X_e$  and when the Y-axis lower limit  $Y_s$  is less  
21 than the Y-axis upper limit  $Y_e$ , and when the X-axis lower limit  $X_s$  is greater than or equal to X-  
22 axis upper limit  $X_e$ , means for determining an X-axis coordinate value  $X_{st}$  of the print starting  
23 point that adds the X-axis minimum value  $X_{min}$  to a changed left margin value  $M_l'$  determined  
24 by the means for selectively changing the margins, and when the Y-axis lower limit  $Y_s$  is greater

25 than or equal to the Y-axis upper limit  $Y_e$ , means for determining a Y-axis coordinate value  $Y_{st}$   
26 of the print starting point that adds the Y-axis minimum value  $Y_{min}$  to a changed top margin  
27 value  $Mt'$  determined by the means for selectively changing the margins.

1 25. The apparatus of claim 24, further comprised of when any of the X-axis lower limit  
2  $X_s$  is greater than or equal to the X-axis upper limit  $X_e$  and the Y-axis lower limit  $Y_s$  is greater  
3 than or equal to the Y-axis upper limit  $Y_e$ , means for initializing the margins to a zero position  
4 according to the predetermined rule.

1 26. An apparatus for adjusting a print location for printing by a printer, comprising:  
2 means for receiving print location information about a print location for printing on a  
3 printing medium by the printer and margin information about margins for printing on a printing  
4 medium from a computer;  
5 means for determining the print location for printing on the printing medium using the  
6 print location information and the margin information; and  
7 means for controlling the position of a printer head for printing on the printing medium  
8 according to the print location determined by the means for determining the print location.

1 27. The apparatus of claim 26, further comprised of the means for determining the print  
2 location, comprising:

3 means for determining an X-axis lower limit  $X_s$  that adds a left margin value  $Ml$

4 contained in the margin information to an X-axis minimum value  $X_{min}$  contained in the print  
5 location information, and means for determining an X-axis upper limit  $X_e$  that subtracts a right  
6 margin value  $M_r$  contained in the margin information from an X-axis maximum value  $X_{max}$   
7 contained in the print location information;

8 means for determining a Y-axis lower limit  $Y_s$  that adds a top margin value  $M_t$  contained  
9 in the margin information to a Y-axis minimum value  $Y_{min}$  contained in the print location  
10 information, and means for determining a Y-axis upper limit  $Y_e$  that subtracts a bottom margin  
11 value  $M_b$  contained in the margin information from an Y-axis maximum value  $Y_{max}$  contained  
12 in the print location information;

13 means for comparing the X-axis lower limit  $X_s$  with the X-axis upper limit  $X_e$  and means  
14 for comparing the Y-axis upper limit  $Y_e$  with the Y-axis lower limit  $Y_s$ , respectively;

15 means for selectively changing the margins respectively according to a predetermined  
16 rule when any of the X-axis lower limit  $X_s$  is greater than or equal to the X-axis upper limit  $X_e$   
17 and the Y-axis lower limit  $Y_s$  is greater than or equal to the Y-axis upper limit  $Y_e$ ; and

18 means for determining the X-axis lower limit  $X_s$  and the Y-axis lower limit  $Y_s$  as the  
19 respective X-axis and Y-axis coordinate values of a print starting point  $X_{st}$ ,  $Y_{st}$  when the X-axis  
20 lower limit  $X_s$  is less than the X-axis upper limit  $X_e$  and when the Y-axis lower limit  $Y_s$  is less  
21 than the Y-axis upper limit  $Y_e$ , and when the X-axis lower limit  $X_s$  is greater than or equal to the  
22 X-axis upper limit  $X_e$ , means for determining an X-axis coordinate value  $X_{st}$  of the print starting  
23 point that adds the X-axis minimum value  $X_{min}$  to a changed left margin value  $M_l'$  determined  
24 by the means for selectively changing the margins, and when the Y-axis lower limit  $Y_s$  is greater

25 than or equal to the Y-axis upper limit  $Y_e$ , means for determining a Y-axis coordinate value  $Y_{st}$   
26 of the print starting point that adds the Y-axis minimum value  $Y_{min}$  to a changed top margin  
27 value  $Mt'$  determined by the means for selectively changing the margins.

1 28. The apparatus of claim 27, further comprised of when any of the X-axis lower limit  
2  $X_s$  is greater than or equal to the X-axis upper limit  $X_e$  and the Y-axis lower limit  $Y_s$  is greater  
3 than or equal to the Y-axis upper limit  $Y_e$ , means for initializing the margins to a zero position  
4 according to the predetermined rule.